

USEPA/OECA/OC
State and Tribal Assistance Grants (STAG) 2000-2001
Massachusetts: Development and Evaluation of an IPM Compliance Assistance Program...in Schools,
Daycare Centers and Childcare Programs
2nd Quarter Report, 2002
Uploaded to the Internet 1.27.03

**Quarterly Reporting Form for EPA's 2000 and 2001
Enforcement and Compliance Assurance Grants**

Reporting Period: Year: 2002

- ☐ Jun-Dec (due last working day Jan)
- ☒ Jan-Mar (due last working day Apr)
- ☐ Apr-Jun (due last working day Jul)
- ☐ Jul-Sep (due last working day Oct)

I. Information

State and Department: Massachusetts Department of Food and Agriculture

Title of Project: Development and evaluation of an Integrated Pest Management compliance assistance program to protect the health of children in schools, daycare centers and child care programs

Grant Contact Person:

Gerard Kennedy, Environmental Analyst, Massachusetts Pesticide Bureau, 251 Causeway Street, Boston, MA 02114.

Phone: 617-626-1773. Fax: 617-626-1850.

Funds Received by State: \$200,000 (June 4, 2001):

EPA Regional Project Officer: Rob Koethe

Author of report: Gerard Kennedy and Reginald Coler

II Status of Project Milestones

Project Milestones	Anticipated Completion Date	Completion Date
1. Develop curricula and training materials to inform and instruct Massachusetts school personnel in the principles of IPM and the laws pertaining to the implementation of IPM in schools	Summer 2001	Completed
2. Conduct series of statewide training sessions for school personnel and pest management professionals in the principles of school IPM and its legal status in Massachusetts Series One Series Two	Summer 2001 Fall 2001	Completed Completed
3. Development of IPM Schools website (a) General information about school IPM and the requirements under the Children's Protection Act (b) Creation of Interactive IPM Plan Development Tool	Fall 2001 November 2001	Completed In Progress
PROJECT EVALUATION MEASURES <i>OUTPUT MEASUREMENTS:</i>		
The numbers of persons attending educational sessions	Fall 2001	Completed
The number of "hits" on the website and an analysis of the traffic (Appendix A).	November 2001	Ongoing
The number of schools submitting plans will be a useful output measurement.	November 2001	Ongoing

<i>OUTCOME MEASURES</i>		
<p><i>Changes in Awareness and Understanding</i></p> <p>Workshop evaluation forms</p> <p>The numbers and types of schools accessing and interacting with the website to construct an individual IPM plan for their school. This information will feed directly into a database.</p> <p>Types of schools submitting IPM plans</p>	Fall 2001	Completed
	November 2001	In Progress
	June 2003	In Progress
<p><i>Changes in pesticides management practices</i></p> <p>Number of schools who develop and submit their IPM plans to the State.</p> <p>The number of schools who improve their understanding of pest management. Document of pest control procedures and quantification of pesticide use patterns for 12-24 schools (depending on availability and logistics) that will be adopting an IPM plan. In the second year, we will closely monitor pesticide use patterns and controls within those schools and compare the results to the previous year and to an additional 12-24 new sites.</p>	Ongoing	In Progress
	June 2003	Under development

III. Status of Project Completion

The project is on schedule to meet its target deadline of three years. Having established most of the compliance assistance tools in the first six months, the remaining two and a half years will involve the launch and promotion of the delayed interactive website, continued educational workshops and development and implementation of an ongoing evaluation program.

IV Results:

1. The deadline for schools to submit their plans to the state was November 2001. Since the end of the year, plans have been submitted at an increasing rate. As of April 9, 2002, close to 1000 plans have been submitted. The plans are being analyzed for quality and type of facility. Standards for accepting plans as complete are outlined at the Act to protect children and families from harmful pesticides website:

<http://www.state.ma.us/dfa/cpa/ipmplan.htm> . An outcome measure will be to compare the submission of plans with the attendance at the workshops.

2. Development of an Interactive Website – this portion of the website will be used to provide schools with the mechanism to generate their own IPM plans. Initial demos of the interactive site, while effective, were thought to lead to overly generic plans. Subsequent refinements have led to a site which can help schools develop useful plans which are more site specific. The development of the site has proven to be a challenge. However the site *is* in the final stages of development and is expected to be available to the public in the 2002. The software is being beta tested by the School IPM Advisory Board and affiliates.

For EPA OECA:

A user name and password has been created for the purpose of allowing you to beta test or assess the progress of the interactive site. The user name for this account is EPA and the password is OECA (case sensitive). For website security purposes, OECA must first provide UMASS with the IP addresses of the computers that will access the interactive site. Contact Dr. Coler at the University of Massachusetts 413-577-0268 to provide him with the IP addresses or if you have other questions.

3. The development of a series of performance measures to evaluate the success of this new Pesticide Bureau “*compliance assistance*” program is well under way . The purpose of the evaluation is to determine the success of the new compliance assistance program in creating understanding of the new legislation among school and daycare personnel and in changing pest management practices in schools. The key outputs and outcomes which have been developed to date are shown in the following work breakdown structure:

OUTPUTS

Workshop Attendance:

The regularly scheduled “spring-time” School IPM Project workshops held throughout the state were attended by approximately 560 individuals representing 387 schools, daycare centers, school age childcare programs, or town members of the DPW or Boards of Health from 120 (~33%) towns in the Commonwealth. Figures for the Fall 2001 will be included in the next progress report.

The attendees are posted on the UMass website at:

http://www.umass.edu/umext/schoolipm/school_ipm_attend.htm).

Grade Workshop Questionnaire:

95% responded within the range of “Strongly Agreed” to “Agreed” that the presentations were clear and understandable;

95% responded similarly to the usefulness of all the information presented.

An additional performance measure used in the workshops was to test the background knowledge of the audience before and after the workshops. The audience was asked to answer four questions (two legal & two practical) before the presentation and then an additional four questions after the workshop. On average, the percentage of questions answered correctly before the workshop was 78% and after the workshop the percentage of correct answers increased 11 points to 89%.

IPM Plans

How many schools have submitted plans?

Ratio of schools to daycares (or students greater than 25 to schools with students less than 25.)

The schools which have submitted plans to date are featured on the website at:

<http://www.state.ma.us/dfa/cpa/ipmplan.htm>

OUTCOMES

The outcomes will measure changes in awareness and understanding:

Correlate Workshop Attendance with IPM plan Submission

Measures

How many of the schools that attended the training workshops have submitted an IPM plan.
How did the quality of the plans compare to those submitted by schools which did not attend workshops?

How many of the schools did not submit plans? If not why not – follow up with a phone call to find out.

Changes in Pest Management Practices

Determine whether attending the school IPM training workshop had an effect on the schools' overall understanding of IPM.

Quality of IPM plans

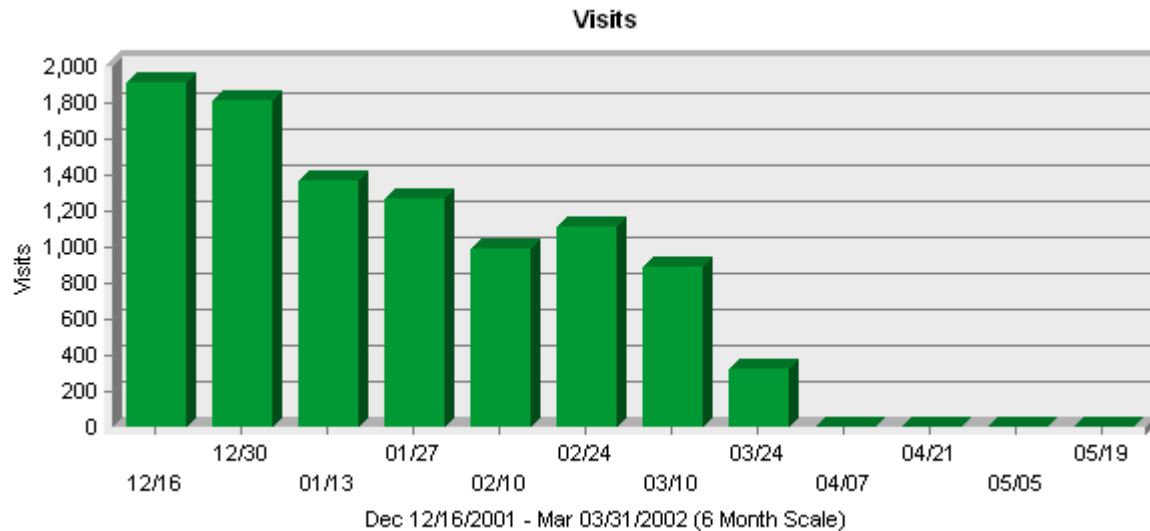
Analysis of the IPM plans submitted to the Bureau.

Field Staff Inspection Survey

A statistically robust plan is in development which will determine if schools are advancing in terms of their understanding of integrated pest management and whether that understanding is reflective in their pest management practices around the facility; and if not why. To determine the effectiveness of the compliance assistance program, the survey will hope to disprove the null hypothesis that there is no difference in pest management practices among schools that have participated in the trainings or workshop and schools that have not.

Appendix A

1. The number of visits to the UMass website. Visits peaked in the month of December, which is not surprising given that the deadline for plan submission was December 31st. Traffic to the site has fallen off progressively since that time. :



General Statistics

Hits	Entire Site (Successful)	126,725
	Average per Day	1,195
	Home Page	3,111
Page Views	Page Views	14,093
	Average per Day	132
	Average per Unique Visitor	7
	Document Views	14,093
Visits	Visits	9,715
	Average per Day	91
	Average Visit Length	00:07:06
	Median Visit Length	00:09:32
	International Visits	0.00%
	Visits of Unknown Origin	100.00%
	Visits from United States	0.00%
	Visits Referred by Search Engines	70
	Visits from Spiders	1,096
Visitors	Unique Visitors	1,888
	Visitors Who Visited Once	1,148
	Visitors Who Visited More Than Once	740

The most popular page accessed, other than the home page, was the section which provided instructions on developing a generic plan.

Top Pages					
	Pages	Views	% of Total Views	Visits ▼	Avg. Time Viewed
1	School IPM for Massachusetts http://www.umass.edu/umext/schoolipm/	3,111	22.07%	2,066	00:00:48
2	School IPM for Massachusetts - IPM Committee - Generic IPM Plans http://www.umass.edu/umext/schoolipm/school_ipm_sch03b.htm	1,702	12.07%	1,472	00:03:56
3	School IPM for Massachusetts - IPM Committee - IPM Plan Components http://www.umass.edu/umext/schoolipm/school_ipm_sch03a.htm	530	3.76%	487	00:01:17
4	School IPM for Massachusetts - News & Events http://www.umass.edu/umext/schoolipm/school_ipm_nws01.htm	463	3.28%	430	00:01:57
5	School IPM - School/Daycare http://www.umass.edu/umext/schoolipm/school_ipm_sch01.htm	399	2.83%	371	00:01:25
6	School IPM - Implementing IPM http://www.umass.edu/umext/schoolipm/school_ipm_gen04.htm	345	2.44%	322	00:00:53
7	School IPM - IPM Literature http://www.umass.edu/umext/schoolipm/school_ipm_gen07.htm	282	2.00%	270	00:02:09
8	School IPM - Administrative http://www.umass.edu/umext/schoolipm/school_ipm_sch02.htm	282	2.00%	260	00:00:59
9	School IPM - Implementing IPM - The IPM Plan http://www.umass.edu/umext/schoolipm/school_ipm_gen04a.htm	266	1.88%	249	00:01:34
10	School IPM - Programs http://www.umass.edu/umext/schoolipm/school_ipm_prq01.htm	227	1.61%	218	00:01:41
11	School IPM - Related Websites http://www.umass.edu/umext/schoolipm/school_ipm_gen06.htm	207	1.46%	200	00:02:22
12	School IPM - General http://www.umass.edu/umext/schoolipm/school_ipm_gen01.htm	208	1.47%	197	00:00:54
13	School IPM - What is IPM? http://www.umass.edu/umext/schoolipm/school_ipm_gen02.htm	190	1.34%	182	00:02:06
14	School IPM - IPM Coordinator http://www.umass.edu/umext/schoolipm/school_ipm_sch04.htm	193	1.36%	181	00:01:37
15	School IPM - Pest Management Professionals - IPM Practices http://www.umass.edu/umext/schoolipm/school_ipm_pes05.htm	202	1.43%	176	00:01:01
16	School IPM - Pest Management Professionals - Implementing IPM http://www.umass.edu/umext/schoolipm/school_ipm_pes04.htm	171	1.21%	167	00:01:15
17	School IPM for Massachusetts - IPM Committee - Notices of Application http://www.umass.edu/umext/schoolipm/school_ipm_sch03f.htm	181	1.28%	165	00:03:23
18	School IPM - Contact Information http://www.umass.edu/umext/schoolipm/school_ipm_contact.htm	172	1.22%	165	00:01:48
19	School IPM - Pest Management Professionals http://www.umass.edu/umext/schoolipm/school_ipm_pes01.htm	172	1.22%	163	00:00:58
20	School IPM - IPM Committee http://www.umass.edu/umext/schoolipm/school_ipm_sch03.htm	176	1.24%	161	00:01:30
Subtotal For the Page Views Above		9,479	67.26%	N/A	N/A
Total For the Log File		14,093	100%	N/A	N/A

The most downloaded files to date are the sample sheets for developing a plan.

Most Downloaded Files				
	File	No. of Downloads	% of Total Downloads	Visits ▼
	http://www.umass.edu/umext/schoolipm/sample_sheets/pma.pdf	67	27.57%	25
2	http://www.umass.edu/umext/schoolipm/sample_sheets/pul.pdf	66	27.16%	22
3	http://www.umass.edu/umext/schoolipm/sample_sheets/psl.pdf	56	23.04%	20
4	http://www.umass.edu/umext/schoolipm/sample_sheets/msr.pdf	54	22.22%	19
Total For the Files Above		243	100.00%	N/A

While most visitors accessed the site only once, 15 % of visitors accessed the site more than ten times.

Number of Visits		
	Number of Visitors	% of Total Unique Visitors
1 visit	1148	60.80%
2 visits	167	8.84%
3 visits	87	4.60%
4 visits	52	2.75%
5 visits	43	2.27%
6 visits	32	1.69%
7 visits	27	1.43%
8 visits	24	1.27%
9 visits	17	0.90%
10 or more visits	291	15.41%